

New safety plan helps reduce work-related injuries

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of the successes associated with the August center-wide Safety Awareness Day.

ETAP encompasses effective hazard identification, reporting and elimination. In July 1995, the ETAP Safety and Product Assurance Department initiated a series of internal and external sitewide ESH compliance audits. The audits were designed to identify, report and eliminate hazards throughout all contractor-operated workplaces. Lockheed Martin ESH professionals from Kennedy Space Center provided compliance audit services both on- and off-site. Likewise, ETAP systems safety

engineers supported sitewide facility audits and operational readiness inspections. They performed in-depth hazard analyses on a variety of JSC facilities and processes.

Superior training and certification for Category I-III hazardous operations are included in the ETAP safety plan. Lockheed Martin information systems personnel and safety engineers developed an Oracle-based automated Training and Certification Records System. The system identifies, tracks, documents and coordinates training and certification requirements for all Lockheed Martin employees and subcontractors involved in Category I-III hazardous operations. This system

ensures that engineering test and analysis personnel supporting JSC are qualified to execute their assigned tasks and responsibilities in a safe, reliable manner.

During the period between Aug. 31 and Jan. 10, the workforce incurred only two recordable injuries requiring medical treatment. However, no time was lost during the period. For calendar year 1995, personnel experienced a 10 percent reduction in days away cases, along with an 84.4 percent decline in overall days away.

ETAP is a services contract headed by former astronaut Ken Reightler. It encompasses several primary functions to support JSC, including space

hardware development and integration, basic and applied research in life sciences, engineering analysis and simulation, facility maintenance and operations, and computational and software systems. The contract employs about 1,400 Lockheed Martin and subcontractor personnel located both on- and off-site at JSC. The employees are located in a variety of operational environments supporting the Engineering and Space and Life Science Directorates. The environments include thermal-vacuum chambers, chemical and science laboratories, energy system and crew and thermal testing facilities, machine shops, and hardware/software development and assembly labs.

Resolutions commit to safety vision

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Rich Dinkel, special assistant to the director. The NASA goal also will be retained as a reference point, and to remain in compliance with agency goals and strategic planning benchmarking.

The Lost Workday Duration/Severity rate deals with the number of days the employee is away from work in relation to each individual lost workday case. By reducing this rate, the job can be accomplished on schedule, on budget and with high quality.

The ESC also heard a review of JSC’s safety performance over the last several years which showed significant improvements in every measured category since the institution of the safety and health committee system. Dinkel attributed the bulk of the improvements to the “dramatic increase in management attention that has been directed at the safety, health and well-being of the JSC workforce.”

Although many new processes, procedures and hazard elimination efforts also have been implemented during this period, the benefits of those programs have not yet been realized, he added. Program changes usually begin to produce results only after about a year in organizations the size of JSC.

“The recent striking improvements in safety performance have been due to the reinvigorated efforts of our managers to become involved, and the workforce noticing that involvement and supporting it,” Dinkel said.

He predicted that if JSC can keep involvement levels up, it will realize an even higher level of performance during the coming year. To put the safety performance statistics of the past year into context, Stacey Nakamura, chief of the Health, Safety and Environmental Compliance Office said the recent safety incidents that provided the basis for the performance data should be looked at individually. Nakamura said that the best thing to do is learn from mistakes.

JSC conducts seat belt survey

A recent seat belt survey revealed a majority of JSC employees are utilizing their seat belts, but at least one JSC safety official says they can do better.

As part of the Occupational Safety and Health Administration’s annual report, employees of Hernandez Engineering conducted a vehicle survey Nov. 28 to determine the percentage of drivers and front seat passengers who were wearing seat belts.

Working as two-person teams, observers monitored JSC gates and intersections from 7 a.m. until 9 a.m. During that period, 1,455 vehicles were surveyed. Of those with civil servant decals, approximately 84 percent complied with the seat belt law. Additionally, seat belt law conformity averaged 58 percent for government vehicles driven on site.

Stacey Nakamura, chief of the Health, Safety, and Environmental Compliance Office, reacted to the survey results. “Seat belts save lives, and we should have 100 percent compliance. It is the simplest thing we can do to save lives.”

Johnson Space Center
Executive Safety Committee’s

New Year’s Resolutions

- **Make JSC the safest NASA installation**
- **Achieve significant, measurable progress toward recognition of JSC as a Center of Excellence for Occupational Safety and Health (CEOSH)**
- **Foster the mindset in all JSC employees that all mishaps can be prevented**
- **Always do everything possible to maximize effective, two-way communication**
- **Establish clear expectations and ensure their promulgation to and understanding by all JSC employees**
- **Better the NASA Headquarters-established FY96 goals for lost workday case rates to achieve the JSC “Vision” performance rates,* by category, as listed below:**

Category	NASA Goal	JSC Vision
Civil Service	0.30	0.18
Contractor	1.55	0.09
JSC Team	0.94	0.58

- **Reduce the JSC FY96 lost workday duration/severity rate by 10 percent**

*Rate is equal to number of incidents per 100 man-years of work.

Safety, Health join forces in ’96

Plans are underway for the 1996 Safety and Total Health Day.

Combining the Safety Awareness Day with the Total Health Pond Party will give employees a chance to spend time concentrating on safety and health issues. The 1996 observance, targeted for late October, will host collective efforts from Total Health and safety.

By combining the best elements of these previously separate events, the ’96

stand-down day should prove to be enlightening and enjoyable. The initial plan calls for including interactive displays for employee involvement and education; informational booths and briefings; self evaluation of safety plans and health check-ups; and self inspections. A subcommittee is forming now. Any employee interested in participating should contact Larry Neu at x30559 for information.



Jonathan Manning and Sonia Fontenot of Hernandez Engineering check whether government employees are wearing seat belts as they enter the front gate as part of the Occupational Safety and Health Administration’s annual report. Of the 1,455 vehicles surveyed 84 percent of drivers and front seat passengers were wearing safety belts as they drove through JSC gates.

System modifications will improve drinking water

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Because the system has a number of low water flow and dead end legs, these locations tend to have low residual chlorine, the substance that keeps the water system free from bacteria growth.

“The potable water distribution system at JSC is an old utility system, but it has been a very dependable system,” said Dennis Perrin of JSC’s Mechanical Operations Office. “In the spring of this year we had a water quality problem which we did not understand. Through the hard work and effort of the site water system engineer and with the help of a water system consultant we feel that we now know why we had the problem.

“New water treatment methods and changes to the distribution are positive steps to correct the problem. The bottom line is that the drinking water at JSC is safe and of good quality but will have a chlorine taste and smell at some site locations until the modifications to the treatment facility and distribution system are completed,” Perrin said.

JSC has two drinking water supply systems. The main water supply is surface water which is obtained from the large main line that comes from the City of Houston Southwest Water Plant. The line is routed down Highway 3 and supplies all of the surrounding communities including the Clear Lake Water Authority. JSC buys surface water from the CLCWA. The second supply system is made up of two site water wells, thereby maintaining a capability to disconnect from the CLCWA system and pump and supply our own water.

JSC disconnected from the CLCWA supply from April until September. Just after the heavy rains in February, JSC started picking up high coliform counts on site at various locations and could not understand the problem as well as control the problem. At that time a water system consultant reviewed the facts and developed a solution. Tests showed that the source of the bacteria was not in the JSC system but most likely coming from the water supply stream. At that time, JSC disconnected from the CLCWA supply line and started to use site well water. The result was that the coliform count in the JSC water system dropped and in turn the overall chlorine level was reduced. Next, JSC started a treatment process on the distribution piping to control biofilm layers. Finally, the 18-inch supply line that connects the JSC site water system to the CLCWA metering

station was cleaned and a considerable amount of silt was removed. This line is a JSC line but it is maintained by the CLCWA.

JSC is currently using the Clear lake City Water Authority supply line but the quality of the drinking water at JSC continues to be a high priority. Weekly water samples are taken at a number of site locations and the samples are tested for free chlorine, total chlorine, ammonia, turbidity, coliform and heterotrophic bacteria.

Slight discoloration of the drinking water is another issue that is currently being addressed. Any time the site water distribution system is working, the water will turn brown because the rust and film layer on the inside of the piping is disturbed. The lines are flushed after any repair work is completed and the water sampled for residual chlorine. If short term flushing does not remove all discolored water from the system, the discolored water may show up in JSC buildings.

JSC routinely collects drinking water samples for state testing. The drinking water samples are representative of water throughout the system. JSC is required to submit a minimum of 10 water samples each month for bacteriological analysis. Any time that a drinking water sample contains a coliform bacteria count then a resample is required at the point source location and at a point up-stream and down-stream of that location.

The Texas Natural Resource Conservation Commission sets drinking water standards in Texas and has determined that the presence of total coliform is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or the pipes which distribute the water. Samples are taken four days each week at JSC. Residual chlorine is monitored for 1 to 2 parts per million at the problem areas and this results in higher chlorine levels at most of the mall buildings.

The TNRCC requires a minimum total chlorine residual of 0.5 ppm at all points in the water distribution system. Most of the complaints received about the JSC drinking water are about the chlorine taste or odor. It has been documented that high levels of chlorine, although not very palatable, are not harmful to consume.

Technical experts list available via Internet to aid employees

A new JSC “Subject Matter Experts List” is now available to JSC employees who are looking for advice in one or more technical or administrative disciplines.

The list has been updated from the old “Technical Experts” list to include a broader spectrum of the work being conducted at JSC and currently includes only the names of civil servants recognized as experts in various disciplines.

JSC onsite and offsite personnel can access the Subject Matter Experts List via the JSC Home Page or the JSC Safety Home Page or can access the list directly via the Internet at: <http://www.jsc.nasa.gov/jsc/safety/consult.html>

The list has an “amber” security rating to allow Internet access only to personnel in the NASA community.

Hard copies of the list also are available.

Hard copy requests and updates and changes to the list may be submitted to the Health, Safety and Environmental Compliance Office via written notice or electronic mail.

All changes must be approved at the submitting organization division level. To submit changes, please include discipline, expert’s name, organization mail code, and telephone number. Send to Mark Klebig, E-mail MKLEBIG, HEI, Bldg. 225.